These children were placed in individual homes in and about New York City, and were followed at frequent intervals by the workers. The results were extremely encouraging and pointed to the adaptability of the plan of home-care on a larger scale.

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THE PHILOSOPHY OF THE OLDER TESTS OF HEARING

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The purpose of functional testing is to determine the presence and degree of impaired hearing, if any, and, secondly, to decide the location of the hearing defect. In the examination of the hearing functions the voice, acoumeter, watch, Koenig rods, tuning forks, resonators, whistles, monochord and audiometers are employed. Observation of the patient is an important factor with reference to the loudness of the voice, attitude of head, lip reading, etc. The otoscopic examination includes a careful inspection of the external ear, the tympanic membrane and mastoid region, the nasal, nasopharyngeal and pharyngeal regions. When testing with the voice by means of unaccentuated whisper or conversation, the patient's eyes are closed or averted and the opposite ear occluded. High and low tones and combinations of both should be used. After inflation of the ears, again test with the voice.

Tuning forks are used very largely to determine the upper and lower tone limits, as well as the carrying out the Schwabach, Weber, Rinne and other tests: The prongs of the fork move in transverse vibrations of great amplitude but slight intensity, while from the stem arise longitudinal vibrations of great intensity but small amplitude. Testing for the low limit begins with C–2 (16 d. v.) fork and proceeds upward. For high tones C–4 (1028 d. v.) and C–5 (4096 d. v.) forks are used. For still higher tones a modification of the Galton Whistle, such as the Edelmann-Galton or Schaefer-Galton is used, or best of all the monochord, with which the highest tones may be tested both by air and bone conduction.

The Weber test for the determination of the lateralization of sound to one ear or the other is made by placing the fork in the median line of the vertex, forehead or the root of the nose. Normally the sound is best heard in the head, but is lateralized to the worse hearing ear with conduction apparatus impairment, and to the better hearing ear with inner ear involvement. There are, however, a good many exceptions to this rule.

The Schwabach test is used for determination of the duration of bone conduction in the individual as compared with a normal living or objective control. The fork is placed in the median line of the vertex or upon the mastoid. Slight diminution or slight increase is of no significance. As a rule there is a definite lengthening of bone conduction with involvement of the middle ear apparatus, and a decided shortening thereof with impairment of the inner ear. The Rinne test used for comparison of air with bone conduction in the same individual is in many ways the most valuable of the tuning fork tests. The stem of the fork is placed on the mastoid and when no longer heard a prong is held close to the ear without touching the auricle or vibrissae, and the duration of hearing by air noted. Normally the Rinne is positive, that is to say, air conduction is much longer than bone conduction. In perception apparatus involvement the Rinne is also positive, but both air and bone conduction are shorter than in the normal. With involvement of the conduction apparatus, Rinne is usually negative, that is, bone conduction is longer than air conduction. There are about eight varieties of the Rinne test.

The Gelle test is used for determining the mobility of the foot plates of the stapes. Normally with compression of the air in the external auditory canal there is diminution of hearing if the fork is placed on the head, tubing or bulb connected with the external auditory canal. If there is a decided fixation of stapes no change in hearing occurs.

The Stenger test is used for unmasking simulation of total unilateral deafness. Two forks are simultaneously employed, the patient believing only one is used. Move one fork somewhat closer to one ear with the other fork vibrating at the opposite ear so that the sound of the nearer fork drowns out the sound entering the opposite ear.

Weber, Schwabach and Rinne are the most important tests and should be used in every case. The Gelle and Stenger tests are for special purposes, and if desired one may employ several other tests, such as the Politzer for determining patency of the eustachian tube, the Bing test for determining the change in bone conduction, and the Lucae-Dennert test for noting the difference of hearing between open and closed meatus.

Audiometers are used for quantitative and for obtaining audiograms which give a graphic record, showing loss of hearing in sensation units. Where forks are supplied with "constant" of damping or decrement, similar curves are had, but if many pitches are tested the process is more tedious than with the audiometer; but on the other hand, the forks are less expensive and the instrumentarian more easily transportable.

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THREE CASES OF PROGRESSIVE AMAUROSIS OF RETROBULBAR ORIGIN—RECOVERY OF VISION WITH FOREIGN PROTEIN TREATMENT

JULIUS WOLFF

These cases were examined and treated in conjunction with Dr. Joseph H. Globus, of the Neurological Staff of Mount Sinai Hospital.

They presented great difficulty in diagnosis to expert ophthalmological and neurological consultants, one case having been operated upon for suspected brain tumor, and in another an operation for supposed pituitary tumor had been decided upon before the treatment with foreign protein was resorted to. In the latter case an intercurrent febrile condition just before the expected operation brought on the first signs of improvement in vision which had been growing worse steadily for months. This fact suggested postponement of the operation and the use of foreign protein. At least two of the three cases were diagnosed as post-encephalitic complications.